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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,978	10/27/2000	Jose C. Brustoloni	6-3	8298

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LUCENT TECHNOLOGIES INC.
DOCKET ADMINISTRATOR
101 CRAWFORDS CORNER ROAD - ROOM 3J-219
HOLMDEL, NJ 07733

EXAMINER

TRAN, ELLEN C

ART UNIT PAPER NUMBER

2134

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,978

Applicant(s)

BRUSTOLONI ET AL.

Examiner

Ellen C Tran

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communication: amendment filed on 26 August 2004, with an original application filed 27 October 2000, with acknowledgement of continuing date 28 October 1999.
2. Claims 1-40 are currently pending in this application. Claims 1, 2, 3, 9, 15, 21, 27, 28, 29, and 35 are independent claims. Amendment to specification is accepted.

Response to Arguments

3. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.
4. Examiner notes that although copending application 09/698,973 was allowed, the wording of the claims in this application is much broader than the allowed application therefore the below rejection applies. Specifically application 09/698,973 included the phrase "the location comprising an indication of a bit position within a packet of where the GPN begins and a length of the GPN". The current application does not include any corresponding phrases, in addition the wording of independent claims leave the invention open to a broader interpretation, i.e. "the function of an Application Layer Gateway (ALG) that need to be implemented in association with the NAT's translations".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

6. **Claims 1-3, 9, 15, 21, 27, 28, 29, and 35** are rejected under 35 U.S.C. 102(e) as being anticipated by Bector et al. U.S. Patent No. 6,687,732 (hereinafter '732).

As to independent claim 1, “A method comprising: performing, at a client, to outgoing packets having the client's private source IP address and generalized port number (GPN)” and “and GPN are translated to a NAT'S global source IP address and GPN, respectively, the functions of an Application Layer Gateway (ALG) that need to be implemented in association with the NATS translations” is shown in 732 col. 5, lines 16-41;

“and a protocol not directly supported by a network address translator (NAT) at which the client's private source IP address” is shown in '732 col. 4, lines 9-16.

As to independent claim 2, “A method comprising: performing, at a client, to incoming packets sent to a network address translator's (NAT's) global destination IP address and generalized port number (GPN)” and “at which the NAT'S global destination IP address and GPN are translated to the client's private destination IP address and GPN, respectively, the functions of an Application Layer Gateway (ALG) that need to be implemented in association with the NAT'S translations” is disclosed in '732 col. 5, lines 16-41;

“and having a protocol not directly supported by the NAT” is shown in ‘732 col. 4, lines 9-16.

As to independent claim 3, “A method comprising: modifying, at a client, outgoing packets having the client’s private source IP address and generalized port number (GPN)” is disclosed in ‘732 col. 5, lines 16-41;

“and a protocol not directly supported by a network address translator (NAT)” is taught in ‘732 col. 4, lines 9-16;

“at which the client’s private source IP address and GPN are translated to the NAT’s global source IP address and GPN, respectively, the packets being modified so as to pre-compensate for the effects on the packets of the IP address and GPN translations” is shown in ‘732 col. 5, line 62 through col. 6, line 27.

As to independent claim 9, this claim contains substantially similar subject matter as cited in claim 3 and is rejected along the same rationale.

As to independent claim 15, this claim is directed to the apparatus of method of claim 3 and is rejected along the same rationale.

As to independent claim 21, this claim is directed to the apparatus of method of claim 9 and is rejected along the same rationale.

As to independent claims 27 and 28, these claims are directed to the apparatus of method of claims 1 and 9 and are rejected along the same rationale.

As to independent claim 29, this claim is directed to a computer readable medium of method 3 and is rejected along the same rationale.

As to **independent claim 35**, this claim is directed to a computer readable medium of method 9 and is rejected along the same rationale.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 4, 5, 10, 11, 16, 17, 22, 23, 30, 31, 33, 36, and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over ‘732 as applied to claims 1, 9, 15, 21, 29 and 35 in further view of by Borella et al. U.S. Patent No. 6,697,354 (hereinafter ‘354).

As to **dependent claim 4**, the following is not taught in ‘732 “wherein modifying the packets comprises modifying a TCP or UDP checksum in a packet's TCP or UDP header to account for the IP address and TCP or UDP source port number translations” however ‘354 teaches “In a preferred embodiment of the present invention, PAP 64 is used to create combination network address 72 that is used in TCP 58, UDP 60 header field” col. 10, lines 49-56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify dynamic network translation taught in ‘732 to include a means to support multi-network applications. One of ordinary skill in the art would have been motivated to perform such a modification to support the Mobile Internet Protocol see ‘354 (col. 3, lines 52 et seq.) “Since the home agent and foreign agent may use multiple network addresses and may function as network address translation routers, they may also suffer from the network address translation

problems discussed above. Thus it is desirable to provide in an improved network address translation method for network devices that use the Mobile Internet Protocol”.

As to dependent claim 5, “wherein modifying the checksum comprises adding to the TCP or UDP checksum the difference between the global and private source IP addresses, and the difference between global and private TCP or UDP source port numbers” is disclosed in ‘354 col. 13, lines 15-40 “In one embodiment of the present invention, globally unique port-1032 replaces local port 1234 for TCP 58 when network device 14 was booted. In another embodiment of the present invention, local port 1234 is replaces with a globally unique such as globally unique port-1032 whenever a protocol layer in layered protocol stack makes the request ... an outer IP 48 header is added to route the request”.

As to dependent claims 10 and 11 these claim contains substantially similar subject matter as cited in claims 4 and 5 above and are rejected along the same rationale.

As to dependent claims 16 and 17 these claim contains substantially similar subject matter as cited in claims 4 and 5 above and are rejected along the same rationale.

As to dependent claims 22 and 23 these claim contains substantially similar subject matter as cited in claims 4 and 5 above and are rejected along the same rationale.

As to dependent claims 30 and 31 these claim contains substantially similar subject matter as cited in claims 4 and 5 above and are rejected along the same rationale.

As to dependent claim 33, “wherein the method further comprises processing any necessary Application Layer Protocol (ALG)” is taught in ‘354 col. 8, lines 14-20 “Above transmission layer 56 is an application layer 62 where application programs to carry out desire functionality for a network device reside”.

As to dependent claims 36 and 37 these claim contains substantially similar subject matter as cited in claims 4 and 5 above and are rejected along the same rationale.

9. **Claims 6-8, 12-14, 18-20, 24-26, 32, 34, and 38-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over '732, in further view of '354 in further view of Nessett et al., U.S. Patent No. 6,055,236 (hereinafter '236).

As to dependent claim 6, “and adding to a TCP or UDP checksum in a packet's TCP or UDP header, the difference between the global and private source IP addresses, and the difference between global and private TCP or UDP source port numbers” is taught in '354 col. 13, line 1 through 38 “Method 140 (FIG. 10) is illustrated with a specific example using TCP 58/IP 48 layer from layered protocol stack 42 ... however, other protocol layer in layered protocol stack 42, could also be used ... Table 3 illustrates an exemplary data packet with an outer IP 48 header added for router 26”;
the following is not taught in the combination of '732 and '354:

“wherein the protocol is an authenticating and/or encrypting-decrypting AH or ESP IPsec security protocol in a tunnel or a transport mode, and modifying the packets comprises: before authentication and/or encryption, in the transport mode, replacing the client's source port number with a global port number, or in the tunnel mode, replacing an encapsulated client's source IP address and port number by the NAT'S global IP address and port number” however '236 teaches “The IPsec services can be applied in one of two modes , a “transport mode” or a “tunnel mode ... As is known in the art, a virtual tunnel can be created by encapsulating a data packet inside another data packet. For example, an outer header is added before an inner header of data packet (e.g., Tables 3, 5, 8, and 11). Between the inner

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header and outer headers are any other header for a data path, or security” in col. 22, line 1 through col. 23, line 64.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of dynamic network translation taught in ‘732 and ‘354 to include a means to maintain establish secure internet sessions. One of ordinary skill in the art would have been motivated to perform such a modification to increase user flexibility and accommodate IP protocols IPv4 and IPv6 see ‘236 (col. 4, lines 59 et seq.) “Thus, it is desirable to allow an external network device to locate and/or communicate with services on internal network devices on a stub network using Distributed Network Address Translation ... using Internet Protocol security and other security protocol”.

As to dependent claim 7, “further comprising processing any necessary Application Layer Protocol (ALG)” is taught in ‘354 col. 8, lines 14-20 “Above transmission layer 56 is an application layer 62 ... more or fewer protocol layers can also be used in protocol stack 42”.

As to dependent claim 8, “further comprising, for the AH protocol, computing each packet's authentication data as if the source IP address were equal to the NAT'S global IP address” is shown in ‘236 col. 21, lines 1-67 “There are a number of security measures that can be used with IP 48 ... IPsec typically defines two security services, each having an associated header that is added to an IP 48 packet data that it protects.”

As to dependent claims 12-14, 18-20, 24-26, 32, 34, and 38-40, these claims contain substantially similar subject matter as cited in claims 6-8 above; therefore they are rejected along the same rationale.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ellen Tran
Patent Examiner
Technology Center 2134
11 February 2005

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

